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EXAMINER	
CHEUNG, WILLIAM K	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	09/831,600	KIVELA ET AL.	
	Examiner	Art Unit	
	WILLIAM K. CHEUNG	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,7-25,29 and 31-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,7-25,29 and 31-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of amendment filed November 3, 2008, claims 2, 5, 6, 26-28, 30 have been cancelled. Claims 1, 3, 4, 7-25, 29, 31-34 are pending. Support for the amendment can be found in the specification (page 8).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Bernier et al. (US 5,834,571), for the reasons adequately set forth from paragraph 5 of the office action of December 1, 2008.

14. (Currently Amended) A method of discharging polymer from a continuously operated gas phase reactor, wherein at least one monomer is polymerized in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor, comprising:

- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- feeding the withdrawn polymer powder into a collecting vessel, wherein lumps are separated from finely-divided polymer powder through a second outlet nozzle located at the same level as the fluidized bed and at least a part of the gas is separated from the solid material;
- recovering the lumps; and
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization, wherein the discharge rate of the polymer powder is adjusted by using a continuously operated control valve, and the operation of the control valve is adjusted by using a control signal obtained from a bed level controller.

Bernier et al. (col. 39, claim 1) claim a method of producing a polymer in a continuously operated gas phase reactor, polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid (col. 39, line 25-33), and adjusting a discharge rate (continuously or intermittently) to withdraw polymer product from the reactor (col. 39, 40-42). Since the withdrawal of the polymer product also accompanied with the withdrawal of the fluidized recycle gas, the examiner has a reasonable basis that the claimed "adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization" is met by

Bernier et al. since Bernier et al. (col. 39, line 45-49) clearly indicate that the fluidized bed level is maintained by withdrawing recycle gas from the reactor.

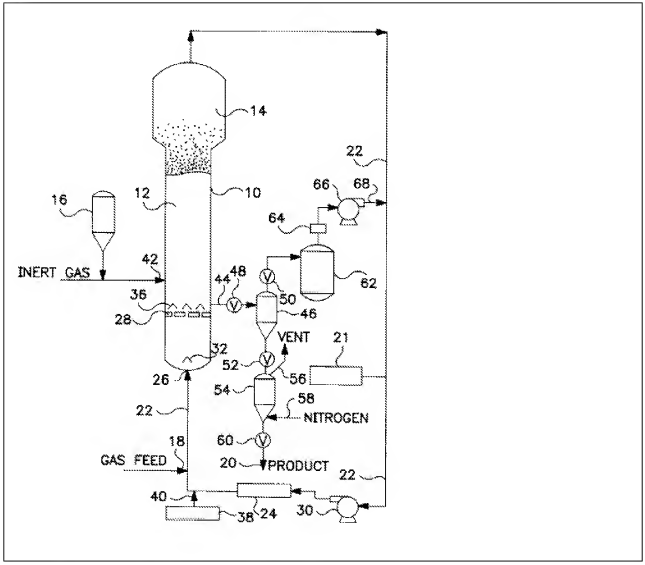
Because the polymer product discharge rate of Bernier et al. can be conducted intermittently from the reactor, and that the agglomerate particles contents withdrawn from the fluidized bed reactor are time dependent, therefore, the examiner has a reasonable basis that the claimed "separately recovering particle agglomerates from the reactor" is inherently possessed in Bernier et al.

Regarding the claimed "control valve is adjusted to provide for pulsating operation to prevent clogging of the valve", Bernier et al. (col. 39, 40-42) clearly indicate adjusting a discharge rate (continuously or intermittently) to withdraw polymer product from the reactor. Since the withdrawal process of Bernier et al. can be adjusted to run continuously and intermittently, the examiner has a reasonable basis that the process of Bernier et al. are controlled with control valves. Regarding "pulsating", when the process of Bernier et al. is run intermittently, the process of Bernier et al. would inherently possessed the claimed "pulsating" feature by the intermittent changes of the withdrawal rate or flow rate. According to applicants' specification (page 3, line 13-14), applicants admittedly agrees that when a process is run discontinuously, it would lead to "a pulsating operation".

Regarding the claimed "first outlet nozzle", applicants must recognize that Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn. Regarding the claimed "second outlet nozzle", Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately

recovering particle agglomerates from the reactor. Both outlets are also located above the distribution plate or at the level that is same as the level of the fluidization bed area (12) of the figure of Bernier et al.

Therefore, claim 14 is anticipated.



Applicant's arguments filed April 1, 2009 have been fully considered but they are not persuasive. Applicants argue that Bernier et al. do not teach the two outlets located

at a specific location as claimed. Regarding the claimed "first outlet nozzle", applicants must recognize that Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn. Regarding the claimed "second outlet nozzle", Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately recovering particle agglomerates from the reactor. Regarding the claimed locations "located at a point above a fluidization plate" and "located at the same level as the fluidized bed", although the wordings are different, the recitations are designating the same locations were both recited locations are located above the fluidization plate (distribution plate). Applicants must recognize that "the fluidized bed" level is also above the distribution plate.

Regarding applicants' argument that Bernier et al. do not teach the valves are always open, applicants fail to recognize that the claims as written do not require the valves to be always open (or being an optional feature). Regarding applicants' argument that if the process of Bernier et al. involves the continuous withdrawal of polymer, the process of Bernier et al. could not be operated for a long period in a stable fashion etc, applicants fail to provide any evidence to support such argument. Further, applicants' claims do not require the claimed process to operate for a long period time in a stable fashion.

Regarding applicants' argument on the effect of polymer dust on the process of Bernier et al., the process the argument is not supported by the claims as written.

Claim Rejections – 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 3, 4, 7-25, 29, 31-32, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernier et al. (US 5,834,571) for the reasons adequately set forth from paragraph 7 of non-final office action of December 1, 2008.

1. (Currently Amended) A method of producing a polymer in a continuously operated gas phase reactor, comprising:

- polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor,
- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization; and
- separately recovering particle agglomerates from the reactor by discontinuously withdrawing the particle agglomerates through a second outlet nozzle located at the same level as the fluidized bed,

wherein the discharge rate of the polymer powder is adjusted by using a continuously operated control valve, and the operation of the control valve is adjusted by using a control signal obtained from a bed level controller,

wherein the control valve is adjusted to provide for pulsating operation to prevent clogging of the valve, and

wherein the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn is in the range of 1:1 to 10,000:1.

13. (Currently Amended) A method of producing a polymer in a continuously operated gas phase reactor, comprising:

- polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor,
- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization; and
- withdrawing particle agglomerates from the reactor through a second outlet nozzle located at the same level as the fluidized bed with a discontinuously operated discharge valve;

wherein the discharge rate of the polymer powder is adjusted by using a continuously operated control valve, and the operation of the control valve is adjusted by using a control signal obtained from a bed level controller, and

wherein the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn is in the range of 1:1 to 10,000:1.

14. (Currently Amended) A method of discharging polymer from a continuously operated gas phase reactor, wherein at least one monomer is polymerized in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor, comprising:

- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- feeding the withdrawn polymer powder into a collecting vessel, wherein lumps are separated from finely-divided polymer powder through a second outlet nozzle located at the same level as the fluidized bed and at least a part of the gas is separated from the solid material;
- recovering the lumps; and
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization, wherein the discharge rate of the polymer powder is adjusted by using a continuously operated control valve, and the operation of the control valve is adjusted by using a control signal obtained from a bed level controller.

29. (Currently Amended) A method of producing a polymer in a continuously operated gas phase reactor, comprising:

- polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor,
- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization; and
- withdrawing particle agglomerates from the reactor through a second outlet nozzle located at the same level as the fluidized bed;

wherein the discharge rate of the polymer powder is adjusted by using a continuously operated control valve, said operation of the control valve is adjusted by using a control signal obtained from a bed level controller, and

wherein the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn is in the range of 1:1 to 10,000:1.

Bernier et al. (col. 39, claim 1) claim a method of producing a polymer in a continuously operated gas phase reactor, polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid (col. 39, line 25-33), and adjusting a discharge rate (continuously or intermittently) to withdraw polymer product from the reactor (col. 39, 40-42). Since the withdrawal of the polymer product also accompanied with the withdrawal of the fluidized recycle gas, the examiner has a reasonable basis that the claimed "adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization" is met by

Bernier et al. since Bernier et al. (col. 39, line 45-49) clearly indicate that the fluidized bed level is maintained by withdrawing recycle gas from the reactor.

Because the polymer product discharge rate of Bernier et al. can be conducted intermittently from the reactor, and that the agglomerate particles contents withdrawn from the fluidized bed reactor are time dependent, therefore, the examiner has a reasonable basis that the claimed "separately recovering particle agglomerates from the reactor" is inherently possessed in Bernier et al.

Although Bernier et al. do not explicitly indicate that the control valve can be adjusted to provide pulsation to prevent clogging of the valve", Bernier et al. (col. 39, 40-42) clearly indicate adjusting a discharge rate (continuously or intermittently) to withdraw polymer product from the reactor, which can cause pulsation. Since the withdrawal process of Bernier et al. can be adjusted to run continuously and intermittently, motivated by the expectation of success of developing the gas phase polymerization process of Bernier et al. (col. 1, line 14-28), it would have been obvious to one of ordinary skill in art to run the gas phase polymerization which associates a discharging the polymer product continuously or intermittently to obtain the pulsating feature as claimed.

Regarding the claimed "first outlet nozzle", applicants must recognize that Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn. Regarding the claimed "second outlet nozzle", Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately recovering particle agglomerates from the reactor. Both outlets are also located above

the distribution plate or at the level that is same as the level of the fluidization bed area (12) of the figure of Bernier et al.

The difference between Bernier et al. and claims 1, 3, 4, 7-25, 29, 31-32, 34 is that Bernier et al. do not explicitly disclose "the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn is in the range of 1:1 to 10,000:1" as claimed.

Nevertheless, Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn, and Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately recovering particle agglomerates from the reactor. Therefore, the process of Bernier et al. clearly inherently "a ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn". Bernier et al. (col. 39, claim 1) do not set any limit on the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn, the examiner has a reasonable basis that the claimed ratio is generically encompassed the invention of Bernier et al. Motivated by the expectation of obtaining the process of obtaining the product discharge process of Bernier et al., it would have been obvious to one of ordinary skill in art to apply "routine optimization" process technique to vary the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn to obtain the invention as claimed.

For overcoming the obvious rejection, applicants filed a declaration (November 3, 2008) to state that the process disclosed in Bernier et al. does not possess the claimed ratio by stating that the ratio as taught in Bernier et al. is much less than 0.1:1 (versus the ratio range of 1:1 to 10,000:1 as claimed. However, in reviewing the declaration filed November 3, 2008, it is unclear how applicants have arrived to the conclusion that the ratio of much less than 0.1:1. In view of lack of evidence, the examiner has a reasonable basis to believe that the declaration fails to overcome the 103 rejection set forth.

Applicant's arguments filed April 1, 2009 have been fully considered but they are not persuasive. Applicants argue that Bernier et al. do not teach the two outlets as claimed. Regarding the claimed "first outlet nozzle", applicants must recognize that Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn. Regarding the claimed "second outlet nozzle", Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately recovering particle agglomerates from the reactor. Both outlets are also located above the distribution plate or at the level that is same as the level of the fluidization bed area (12) of the figure of Bernier et al.

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ratio of much less than 0.1:1. In view of lack of evidence, the examiner has a reasonable basis to believe that the declaration fails to overcome the 103 rejection set forth.

Regarding applicants' argument that Lorenzo et al. was used in a rejection in the office action issued November 30, 2007, and it would not be possible that the reasons set forth is proper, applicants fail to recognize that the date used was a typographical error. The date should have been June 3, 2008. Nevertheless, the rejection set forth is proper since the rejection content did not include any information from Lorenzo et al.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bernier et al. (US 5,834,571) in view of Koves (US 4,959,198) for the reasons adequately set forth from paragraph 8 of the office action of December 1, 2008.

33. (Currently Amended) A method of producing a polymer in a continuously operated gas phase reactor, comprising:

- polymerizing at least one monomer in a bed containing active catalyst formed by catalyst and polymer particles suspended in a fluid, said bed defining a fluidized bed level in said reactor,
- continuously withdrawing polymer powder from the reactor through a first outlet nozzle located at a point above a fluidization plate where no lumps are present;
- adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization; and
- separately recovering particle agglomerates from the reactor by discontinuously withdrawing the particle agglomerates through a second outlet nozzle located at the same level as the fluidized bed.

Set forth from paragraph 3 of instant office action, claim 33 is very similar to the method as taught in Bernier et al.

The difference between the invention of claim 33 and Bernier et al. is that Bernier et al. do not disclose a grid flush mounted to the reactor wall to prevent lumps from entering the pipe.

However, Koves (col. 2, line 16) clearly disclose the use of retention screen (or grid) for confining particles to be within the fluidized wall. According to Koves (col. 2, line 16) clearly disclose the motivation for installing a retention screen. Motivated by the expectation of success of better control of confining particles to be within the fluidized wall, it would have been obvious to one of ordinary skill in art to install a retention screen or a grid to the outlet as taught in Bernier to obtain the grid feature of claim 33.

Regarding the claimed "flush mounted" feature, applicants must recognize that that "flush mounted" is merely a design choice within the teachings of Koves on the installing a grid onto the outlet of Koves. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). Motivated by the expectation of success of reducing the disturbance on the flow of the particles within the reactor wall, it would have been obvious and predictable to one of ordinary skill in art to install the grid in a "flush mounting" fashing, in view of KSR International Co. v. Teleflex Inc. (KSR), 550 U.S. ___, 82 USPQ2d 1385 (2007).

Applicant's arguments filed April 1, 2009 have been fully considered but they are not persuasive. Applicants argue that Bernier et al. do not teach the two outlets as claimed. Regarding the claimed "first outlet nozzle", applicants must recognize that Bernier et al. (figure, items 44 (valve 48)) disclose the first outlet nozzle where the polymers are continuously withdrawn. Regarding the claimed "second outlet nozzle", Bernier et al. (figure, item 50) clearly disclose a second outlet nozzle for separately recovering particle agglomerates from the reactor. Both outlets are also located above the distribution plate or at the level that is same as the level of the fluidization bed area (12) of the figure of Bernier et al.

For overcoming the obvious rejection, applicants filed a declaration (November 3, 2008) to state that the process disclosed in Bernier et al. does not possess the claimed ratio by stating that the ratio as taught in Bernier et al. is much less than 0.1:1 (versus the ratio range of 1:1 to 10,000:1 as claimed. However, in reviewing the declaration filed

November 3, 2008, it is unclear how applicants have arrived to the conclusion that the ratio of much less than 0.1:1. In view of lack of evidence, the examiner has a reasonable basis to believe that the declaration fails to overcome the 103 rejection set forth.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
July 26, 2009